CLEAN VERSION OF THE AMENDED CLAIMS

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1. (amended) Cardiovascular prostheses with an endothelial cell surface produced in that after an initial sub-confluent seeding of a surface on the blood contact side, the formation of a confluent monolayer ensues by the cells growing under a permanent influence of defined pulsatile shear forces increasing up to physiological values, by means of streaming the prosthesis surface on the blood contact side along a main axis of the prosthesis in an inner perfusion circuit and by moistening an outer prosthesis wall in an outer perfusion circuit, or in a permeable medium reservoir.

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5. (twice amended) Cardiovascular prostheses according to claim 1, characterized in that the mathematical value of the occurring shear forces can be adjusted by varying pumping capacity, as well as by varying the size of the cross-section of pumping tubes used or of any other connecting elements outside of the chamber, as well as by the geometrical form and configuration of the very chamber.

Sub F1

9. (twice amended) Cardiovascular prostheses according to claim 6, characterized in that the perfusion circuits lead from one medium reservoir (6) into another medium reservoir (6'), in which the medium collected has already streamed through the prosthesis.

Sub F1

19. (twice amended) The method according to claim 17, characterized in that in an inner perfusion circuit (5) for streaming through the inner prosthesis space along the main axis of the prosthesis inside of the chamber (2), the prosthesis (1) is fixed by means of adapters (3, 3'), and hence as such constitutes the inner perfusion circuit (5), and that an outer perfusion circuit (5') exists for outwardly streaming the prosthesis (1) in the same chamber (2) which, towards the outside, comprises for the two circuits (5, 5') connectors to a pumping device (7) and medium reservoirs (6, 6') which also have the function of pressure equation reservoirs.

20. (twice amended) The method according to claim 17, characterized in that

a) the outer perfusion circuit (5') can be operated in co-current or counter-current to the inner perfusion circuit (5), but also statically,

b) the two perfusion circuits (5, 5') do not work as a closed system but lead from one medium reservoir (6) into another medium reservoir (6'), in which the medium collected has already streamed through the prosthesis,

c) the inner and the outer perfusion circuits have different medium reservoirs or one and the same medium reservoir (6, 6'), and

d) the two perfusion circuits (5, 5') unite inside the chamber (2) after having streamed the prosthesis (1), but leave the chamber (2) in separate perfusion circuits (5, 5').